PHOTOGRAPHIC INTERPRETATION REPORT

SOVIET PROBABLE LONG RANGE SURFACE-TO-AIR MISSILE CONFIGURATION (ABSTRACT)

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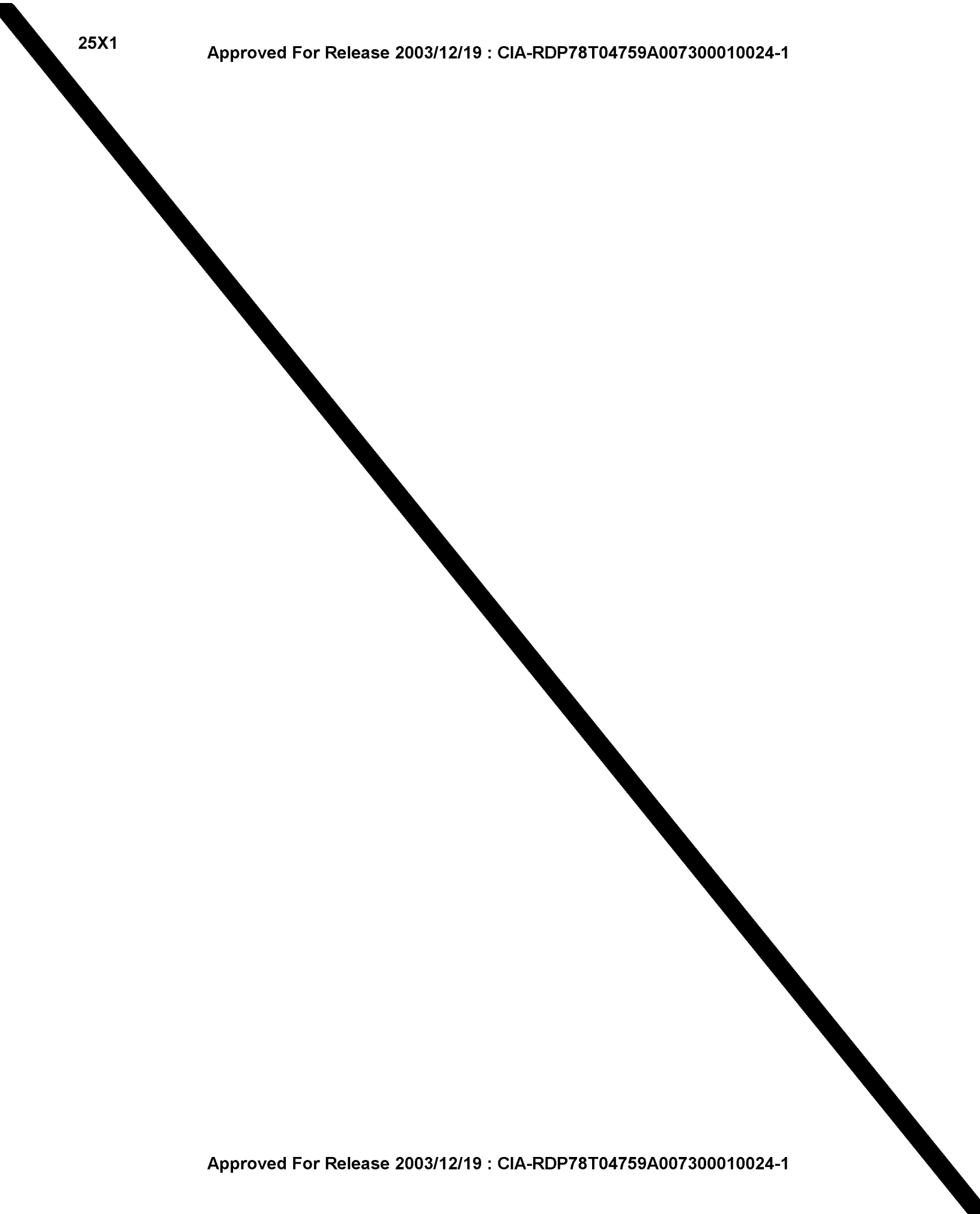

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PREFACE

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In October 1966, NPIC report [redacted] entitled "Missiles at Sary-Shagan Antimissile Test Center, USSR" 1/ presented a compilation of data on missile activity at the test center through [redacted] and discussed possible concepts of the PLRS missile configuration. Currently being finalized are 2 detailed reports on the same subject, 1 of which will update information on missile activity through [redacted] and the other will be an analysis of the missile configuration. In order to expedite dissemination of NPIC's current analysis of the PLRS missile, this abstract of the latter report is being published. The more detailed and comprehensive report will follow shortly.

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Though recent large-scale [redacted] photography has provided numerous views of the PLRS missile, the interpretability is not of such quality as to preclude changes in the concept portrayed in this report. The different interpretations of this missile, as set forth by various photo interpretation organizations, are proof enough that better quality photography with improved ground resolution will be required to provide more precise information.

SOVIET PROBABLE LONG RANGE SURFACE-TO-AIR MISSILE CONFIGURATION (ABSTRACT)

Detailed photo analysis reveals considerable evidence that only 1 type of missile exists for the Probable Long Range Surface-to-Air (Tallinn) Missile (PLRS) System; however, not all evidence converges toward this conclusion. It is the intent of this abstract report to describe briefly the most likely configuration and also to discuss briefly some of the anomalies which may suggest possible variations.

When missile performance is being calculated from mensuration performed on photography, great caution must be used in view of the possible error factors involved. Statements of probable accuracy are printed with the line drawings, as they may vary according to the interpretability of photography and other factors.

These accuracy statements apply to the accuracy of measurements between points selected and do not necessarily indicate the true dimensions of the object. Answers given are averages of a number of measurements, as received from the computer. For this reason a total of component parts will not necessarily exactly equal the overall total length.

The best view of the PLRS missile to date was secured at Tallinn in This view revealed a configuration resembling a single-stage missile with sharply swept back delta fins set in a cruciform arrangement (See Figure 1). Canard surfaces, if present, are too small to be resolved; however, a 5-foot-long dark-toned nose section is clearly visible. Though booster elements cannot be identified, their presence underneath the delta-shaped wings cannot be ruled out. A similar dark-nosed missile with a possible booster element attached is seen at launch position B/5, Sary-Shagan PLRS Launch Complex 2 on (See Figure 2). The position of the sharply swept back delta fins also suggests a cruciform configuration. This missile is probably the same type of missile seen at Tallinn position C/5 on the same day except that at Sary-Shagan a probable booster is seen between the delta fins, along the top of the missile.

Further evidence of strap-on boosters and delta fins has been seen at Sary-Shagan's Launch Complex A on a number of occasions. Photographic and photogrammetric analysis of these missiles reveals marked similarities between all of these missiles, leading to the conclusion that the missile seen at Tallinn in was probably only partially assembled and that the missiles seen at Sary-Shagan Launch Complex A and PLRS Launch Complex 2 are probably similar and have been seen at different stages of assembly. The completely assembled missile, as shown in the accompanying illustration (Figure 3), consists of a continuous sustainer body, attached to which are 4 delta fins and 4 strap-on boosters.

Though the interpretive evidence considered suggests a strong probability that this missile is the only PLRS missile, some photographic evidence exists which does not permit rejecting the possibility of another missile or a variant of the 1 described. The forthcoming report will discuss these anomalies in some detail. In summary, it can be stated that there is a difference in the missile dolly handling/indexing mechanism on left and right hand dollies at Launch Site A, Sary-Shagan PLRS Launch Complex 2, and at Positions 5 and 6 at Launch Site 3, Sary-Shagan Launch Complex A. Other anomalies include the inconsistent appearance of a shadow which has

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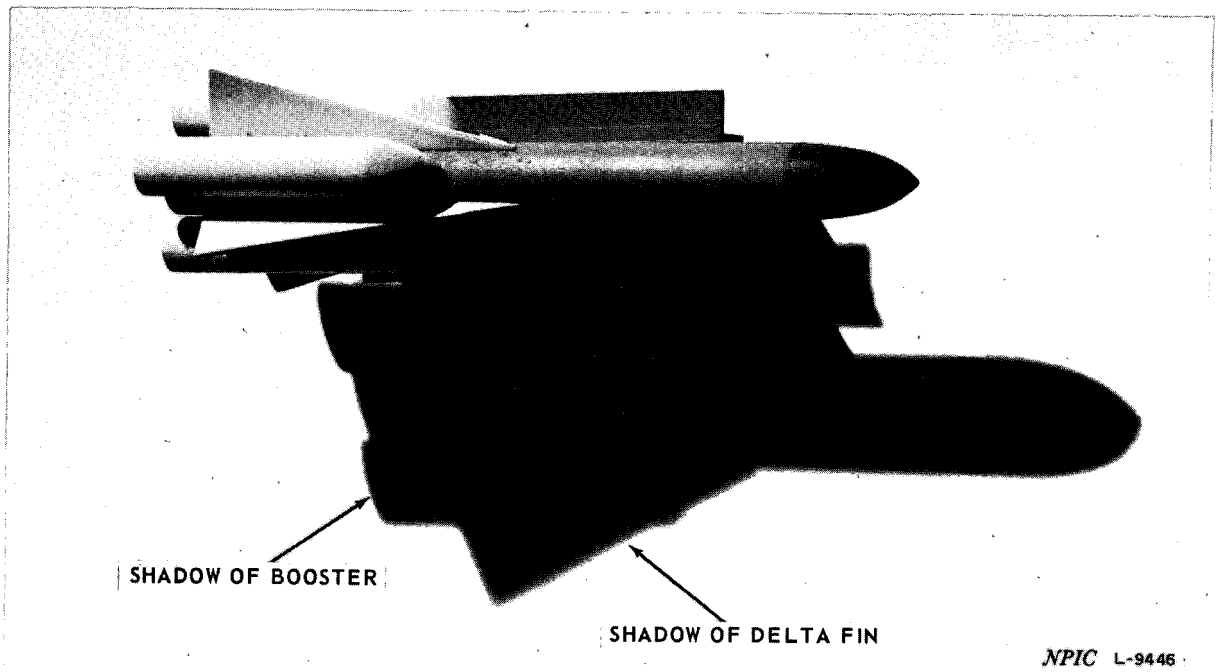

FIGURE 3. MODEL CONCEPT OF A FULLY ASSEMBLED PLRS MISSILE.

been described as possibly of a yoke, and the presence of a small shadow to the rear of the delta fin shadow. The latter may relate to the "fish-tail" effect, which is at times apparent when the boosters are present.

Available photography has not revealed any gross differences in launcher configuration. The small differences noted, particularly at the more complete deployed complexes, may be due to tarpaulin covering being removed from some of the launchers and the fact that articulated components of the launcher are being exercised. Nevertheless, the possibility of an actual difference in the launchers cannot be ruled out without photography of improved interpretability.

On balance, though available photographic evidence strongly suggests the presence of only 1 type of missile for the PLRS (Tallinn) system, the possibility of another missile or a variant of the most likely configuration cannot be ruled out at this time.

It is believed that a clustered booster in tandem arrangement behind a sustainer is not a likely configuration. This is further supported by the identification of probable shipping containers for the PLRS missile at Liepaja and Sary-Shagan. These containers, approximately [redacted] are more likely configured to take a single sustainer section, minus strap-on boosters and fins.

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REFERENCES

PHOTOGRAPHY

See subsequent reports mentioned in Preface.

DOCUMENT

1. NPIC. *Missiles at Sary-Shagan Antimissile Test Center, USSR,* Oct 66 (TOP SECRET 25X

REQUIREMENTS

CIA. C-DI5-82,750 (revised)
CIA. C-DI5-83,163 (revised)
GMAIC. 1-8

NPIC PROJECT

11023/66 (partial answer)